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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/713,187	11/17/2003	Masaru Shinkai	H6790.0005/P005	9580

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EXAMINER

MULVANEY, ELIZABETH EVANS

ART UNIT PAPER NUMBER

1774

DATE MAILED: 12/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/713,187	Applicant(s) SHINKAI ET AL.	
	Examiner Elizabeth E. Mulvaney	Art Unit 1774	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-23 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |  |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>3/13/04</u> | 6) <input type="checkbox"/> Other: ____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2, 4, 6-14, and 18-23 are rejected under 35 U.S.C. 102(b) as being anticipated by US 6,352,753.

The reference discloses an optical recording medium comprising a substrate, a dielectric layer, a boundary layer, a phase change recording layer, a second boundary layer, a second dielectric layer, and a reflective layer. The boundary layer may be formed of a mixture of a carbide or oxide of Ti, Zr, V, Ta, Cr, Mo, or W. The main component of carbide or oxide is present in at least 50 mol %. See col. 5. The thickness of the boundary layers is defined in col. 7. The phase change material is Ge-Sb-Te composition that may include metals such as Co or Cu. See col. 9. The boundary layers are formed by sputtering in an inert environment. See Examples.

Claims 1, 4, 6, 7, 11, 12, 15-17, and 21 are rejected under 35 U.S.C. 102(e) as being anticipated by 2002/0160306 or 2003/0081537.

Both references disclose a recording medium having a phase change recording layer with dielectric layers formed on either side thereof. The dielectric layers are formed of a mixture of a carbide and oxide. See '537 para [0084] and '306 para [0111-0112]. Both references disclose double-sided disks

in Fig. 3. *Claim Rejections - 35 USC § 103*

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The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,352,753 as applied to claims 1, 2, 4, 6-14 and 18-23 above, and further in view of US 6,677,104.

US 6,352,753 discloses the recording disk as described in the above rejection. It is recognized that the reference does not disclose a recording disk having a reflective layer adjacent the substrate. However, US 6,677,104 discloses a recording disk having a reflective layer adjacent the substrate, a dielectric layer, a phase change recording layer, and a second dielectric layer. Therefore, it would have been obvious to one of ordinary skill in the art to change the location of the reflective layer in the '753 patent to adjacent the substrate as shown in the '104 patent. One would be motivated by the reasoned expectation of obtaining a recording disk that was recordable through the substrate.

Any inquiry concerning this communication should be directed to Elizabeth Evans Mulvaney at (571) 272-1527. The examiner can normally be reached Monday through Thursday from 9:00 AM to 6:00 PM and on alternating Fridays from 9:00 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye, can be reached at (571) 272-3186. The fax number for the organization where the application is assigned is 703-872-9306. Information regarding the status of an application may be obtained from the Patent Application Information retrieval (PAIR) System. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for

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unpublished applications is available through Private PAIR only. For more information about the PAIR System, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR System, contact the Electronic Business Center (EBC) at 866-217-9197 (toll free).



Elizabeth Evans Mulvaney  
Primary Examiner  
Group 1700